Long Term Forestry Planning in Ontario

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Ontario
Ministry of Natural Resources

LONG TERM FORESTRY PLANNING IN ONTARIO

Preamble

The current Federal guidelines for the post-1982 generation of forestry development agreements include the following guideline:

> No. 2. LONG TERM PLANS. No further agreements will be implemented in a province in the absence of a long term plan of at least 20 years duration, a minimum time necessary for consistent forestry programs. These plans will include timber production goals and the relative emphasis to be placed on various forest renewal treatments, protection, closer utilization, and increased productivity in the mills.

Ontario supports the intent of this national guideline, and agrees that Federal/Provincial Agreements must be developed and managed within the framework and guidance of long term plans, if they are to optimally contribute toward Canada's and Ontario's longer-term and higher-order social and economic objectives.

In the preliminary discussions leasing to the development of a candidate replacement Forest Resource Development Agreement, Federal and Provincial staff have co-operatively examined the feasibility of preparing a concise and single document which might constitute a "Management Plan for Ontario".

While there is certain merit in having a single document, this is perhaps only feasible and appropriate for a province in which the forest industry and the forest management program are in an early developmental stage.

Forestry development is sufficiently advanced and complex in the Province of Ontario, such that forestry officials at the most senior level of both governments agree that a single document is not appropriate in the Ontario context. Rather, they have requested the preparation of a concise statement describing the long term "planning and development process" in place within the province together with related documents.

The current paper constitutes such a statement and provides specific reference to the numerous documents which comprise or result from Ontario's long term planning system and evidence the province's commitment and direction to responsible forest resources development.

Each of the major aspects of the forestry system in Ontario -- the resource, the industry, and the management systems -- are at a stage of development which is both reasonably mature and exceedingly complex. As such, a highly sophisticated, dynamic and complex system of planning is required. Such a system has been developed and put into place over the decades.

Ontario has a long history of legislation and administration relating to both Crown land and private land forests. However, emphasis on comprehensive forest management planning and forestry related activities has developed more recently, particularly since 1962. The major developments in respect to forestry policy and planning have been:

1849 Province enacts **An Act for the Sale and Better Management of Timber on Public Lands** incorporating the intent to regulate sale of timber and to provide for public revenues.

1878 First Legislation to Control the Setting of Fires.

1921 **Reforestation Act** passed (succeeded in 1927 by the **Forestry Act** and in 1929 by the **Provincial Forests Act**) permitting the province to enter into agreements with individuals, counties, etc. initially for reforestation purposes and in 1927 for forestry. There are now over 110,000 hectares of private land under such management.

1929 **Pulpwood Conservation Act** - not implemented because of depression and economic conditions.

1947 **Royal Commission on Forestry** - focusing on methods for improved allocation, utilization and economic conditions. Passage of the **Forest Management Act** requiring the forest industry to prepare forest management plans and to manage licensed areas in accordance with these plans.

1952 Consolidation of legislation into new **Crown Timber Act** to provide for establishment of Management Units; principal of sustained yeild; establishment of 20-year Order-in-Council licences and penalties for wasteful cutting practices. Implemented in 1953.

1962 Amendment of **The Crown Timber Act**; returning to the province the responsibility for maintaining the forest productivity of Crown land. As a result, Ontario developed the single largest provincial government silvicultural program in Canada.

1966 **Woodlands Improvement Act**; provided support to individual private forest landowners for planning, reforestation and timber stand improvement. Presently, over 10,000 owners with agreements for more than 150,000 hectares.

1967 **Report of the Forestry Study Unit**; focusing on the need to improve and to integrate efforts in regeneration, tending and protection.

1970 **Forestry Act**; amended to provide equal consideration of timber, wildlife, recreation, environmental protection and water supply within the definition of "forestry purposes".

1972 **Committee on Government Productivity**; major review and revision of government organization and delivery systems - resulting in the formation of MNR, a major departmental reorganization and the introduction of new planning systems and policy thrusts for program integration.

1972 **Forest Production Policy Options for Ontario**; focusing on the requisite level of fibre production and the resultant social/economic/environmental effects of various production level options. Adoption of a goal of 25.8MM m^3 by 2020 has provided a framework for the regeneration program to date.

1975 Introduction of the **Environmental Assessment Act**.

1975 **Report of the Timber Revenue Task Force**; focusing on the appropriate level and system of public revenue generation by the forest.

1976 **Forest Management in Ontario**; focusing on improvement of silvicultural and professional practices.

1978 Major review of industrial development and structure: **Problem Identification and Solution Options in the Ontario Pulp and Paper Industry (Dick Report)**; **The Ontario Pulp and Paper Industry -- Status and Outlook**; **and, Report of the Special Task Force on Ontaio's Pulp and Paper Industry**. Leading to the establishment of the **Canada/Ontario Pulp and Paper Facilities Improvement Sub-Agreement** from 1979 to 1984.

1978 Initiation of a 5-year Federal/Provincial **Forest Management Subsidiary Agreement** to undertake joint initiatives of enhancing the forest estate and forest management systems, in support of a strengthened forest sector.

1979 Amendment to **The Crown Timber Act**; providing for Forest Management Agreements whereby forest industry assumes responsibility for forest management including both harvesting and regeneration.

1982 **MNR Strategic Land Use Plan and Co-ordinated Program Strategy** exercises completed and published for the province.

1982 **Private Land Forests - A Public Resource**; a green paper and public forum series, preliminary to an eventual White Paper on Private Land Forests.

1983 **Land Use Guidelines** in place at MNR District level. Provincial policies articulated for Resources Access and for Modified Management Areas where other areas will be managed for in conjunction with timber production.

1983 Presubmission consultations on **Class Environmental Assessment** for Forest Management.

FOREST MANAGEMENT IN ONTARIO

1. THE ONTARIO FORESTRY PLANNING SYSTEM.

The major elements of the public sector planning system related to Ontario's forest resource, forest industry and forest management activities are:

- the corporate planning systems of the Ministry and of the province;
- the Ministry's forest strategy and forest policy planning system;
- the Ministry's Inventory System;
- the Ministry's land use planning system;
- the provincial environmental assessment system;
- the Ministry's work planning system, encompassing:
    - access,
    - regeneration,
    - tending,
    - protection,
    - science and technology, and,
- the Ministry's management information/reporting system.

Obviously, there are several dimensions to the possible heirarchy and timing sequence of these various elements of the total planning system. Additionally, since planning is an iterative and continuous system, the inter-relationships between the elements of this system are both large in number and exceedingly complex. For illustrative purposes, four of these elements are briefly referenced below:

1.1 Inventory

Ontario pioneered the practice of forest inventory in Canada, initiating a complete provincial inventory in 1946.

Unlike many inventory systems that aggregate volume data, the Ontario system, in addition, identifies "Stands" on the basic production unit in the system. It not only provides information on "what" and "how much" but also on "where", a most important management feature.

At the present time, three full photography cycles have been completed (1946-1957, 1958-1968, and 1969-1976). The inventory is conducted in accordance with **Forest Inventory Procedure for Ontario**, 3rd. Edition, 1978 and the first complete summary report appeared some 20 years ago as **The Forest Resources of Ontario**, 1963.

Each Forest Resources Inventory (FRI) has seen changes to reflect new technology in data processing, user needs and new sampling techniques. Generally, each inventory has become more sophisticated than its predecessor. The Ministry is continually searching for new and better sampling techniques to provide more reliable data to decision makers at reasonable costs. These are tested and the most useful are implemented. At this point, the use of satellite imagery to plot and calculate annual cutover areas and the development of computer maps are the adaptations which are under extensive technical and financial review.

In addition to the FRI, the Ministry has developed sophisticated procedures for conducting Operational Cruises, NSR Inventories, Free-to-Grow Assessments, Regeneration Surveys and a plethora of special-purpose forest resource inventories, including: soil and site inventories, geologic inventories, recreational usage inventories, wood-using industry inventories.

1.2 Management Planning System

Ontario's Crown forest land base is subdivided into 103 Management Units. Each of these Crown, Company or FMA Management Units is subjected to a process involving the preparation and approval of a 20-year Management Plan, 5-year Operating Plans and Annual Plans, all in accord with either the **Manual of Forest Management Plan Requirements for the Province of Ontario, 2nd Edition, 1978** or the **Forest Management Manual, 1980**. In addition 58 Agreement Forests are managed in accordance with the same management plan requirements. 70 management plans covering 187,471 km^2 have been approved as of April 1984.

1.3 Policy Planning:

Ontario's Forest Production Policy (FPP) is the product of a major strategic planning exercise, which started in 1967 and culminated in 1972 when the Ontario Cabinet provided approval-in-principle for the planning and budgeting of a major escalation in forest management activity -- one which would allow for the production and maintenance of a resource base which would support an industrial cut of 25.8 million cubic metres of timber per year by the year 2020. Selection of the production

target level of 25.8 million cubic metres was the result of detailed analysis of the social/economic/ environmental benefits of that level of production, in conjunction with the fiscal/manpower levels. Ontario was the first Canadian jurisdiction to develop Strategic Planning to this level.

Following selection of the production target, a detailed implementation schedule was developed to guide the program through its first ten-year period of rapid expansion. The Implementation Schedule has been subjected to periodic review and revision -- the current schedule extending through to the year 1991/92. (Reference **Forest Production Policy Options for Ontario, 1972; A Forest Production Policy for Ontario, 1972**; and **Forest Production Policy -- Implementation Schedule, 1972**).

1.4 Land Use Planning:

Beginning in 1972, a major planning process was initiated in respect to land use planning in Ontario. A decade of inventory, target setting and testing, option identification and analysis, and public consultation resulted in the publication in 1982 of three major documents -- one for each MNR planning region: **Northwestern Ontario: Strategic Land Use Plan; Northeastern Ontario: Strategic Land Use Plan;** and **Southern Ontario: Coordinated Program Strategy.** Similar strategy documents were released in 1983 for each of the Ministry's Districts -- providing the public, other agencies and Ministry staff with key information on resource inventory, capability, goals, issues and programs.

These planning documents, both regional and district, specifically address the forest land base in relation to its capability and desirability to satisfy industrial fibre requirements in the context of total land use requirements.

2. PLANNING PERIOD AND STATUS.

Since planning frameworks and time-frames are both dynamic in nature, and highly variable from one element of the resource industry of management activity to another, there is no single planning period which applies to forestry planning in Ontario. However, there is one period which tends to be substantially more important than most. This is the period 1972-1991, divided into two distinct 10-year periods. This is the time-frame associated with the first two decades

of the Forest Production Policy (FPP) -- which has a 50-year planning horizon. The year 1972 also coincides with the introduction of a fundamental governmental and departmental reorganization, as well as the initiation of a major land-use planning exercise.

At this juncture Ontario is entering the second decade of that planning period. An extensive review and evaluation of the first ten years of the FPP has resulted in the production of an implementation schedule for the second decade of 1982-1991. (**Forest Production Policy -- Implementation Schedule to 1991/92**). In addition, review of program objectives, policies and strategies has resulted in the development of a detailed strategy for this second ten years of the 1972-2020 FPP time horizon.

3. A FOREST STRATEGY FOR ONTARIO (1982-1991)

Significant focus and effort are required in each of eight key activities over the next decade. These are:

- access;
- protection;
- regeneration;
- pricing and allocation;
- industrial development;
- utilization;
- technology transfer; and,
- program integration.

Although each of these activities is important, the first three, when formulated into a balanced and cohesive package, constitute the essence of a Forest Renewal Strategy for Ontario.

3.1 Access:

In the matter of access, it is clearly recognized that improvements in cut location and cut distribution by means of accelerated accessing of the forest estate are among the highest priority actions for the next decade, in order to effect:

- harvesting of overmature stands before they are depleted by fire, insect, disease, wind and other mortality;

- salvaging of mature and immature stands which have been damaged by fire, insect, disease, wind, drought and flooding;

- protection and regeneration and tending opportunities that are all-but-prohibitive in the absence of a basic roading network on the forest estate;

- integration of forest management with other legitimate uses of the forest, by way of providing the requisite access to effect cut distribution and cut modification, so as to ameliorate adverse impacts on aesthetics, fish and wildlife habitat and tourism opportunities;

- flexibility in the implementation of operating plans in order to create a greater capability to respond to anticipated changes such as a market shift or catastrophic fire or insect attack.

3.2 Protection

Prior to the 1972-1991 plan period, Ontario was reasonably satisfied with and justifiably proud of its record of fire suppression and management.

However, the losses of 1974, 1976, 1977 and 1980 resulted in further evaluation in terms of the organizational and technical appropriateness of fire protection in Ontario.

A series of initiatives must be set in motion during the next five years, focused on:

- co-operative training and manpower arrangements with the forest industry;

- purchase of CL-215 water bombers, in conjunction with a broad program of:

    - conversion and housing of the fixed-wing fleet;
    - increased use of helicopters;
    - establishing additional fire attack bases in the Far North;
    - development or acquisition of computerized decision support systems (inforamtion and communication systems),

    and

    - increased emphasis on prescribed burning as a major, low-cost tool for site preparation, for age-class conversion, for sanitation and for hazard reduction.

Additionally, a series of specific reassessments must be undertaken in respect to insect and disease losses and control options and strategies during the 1980's.

3.3 Regeneration:

One of the conditions of each Forest Management Agreement (FMA) is that not-satisfactorily regenerated (NSR) areas as defined by a survey are treated over the first 20-year period of each agreement. The total NSR area under FMA's comprises 167,259 hectares but companies are only formally obliged to treat 5% each year. In fact on the 22 MFA's signed since 1980 the NSR hectares treated exceed the formal obligation - 34,575 hectares compared with 24,010.

A decision to regenerate, of necessity, requires a commitment to undertake the associated tending activities of controlling herbacious competition and protecting from insects and disease.

3.4 Resource Allocation, Pricing and Funding:

The Forest Strategy outlines a number of thrusts and actions to deal with these sensitive but essential elements. Central among these actions must be the willingness of the Federal government to meet its Forest Imperatives, 1980 commitment to share in the costs of sustaining the productivity of the forest. Entering into a broad and balanced program of forest access, protection and regeneration initiatives, through a new Federal/Provincial Forest Resources Development Agreement, is an item of acute necessity and priority.

3.5 Industrial Development:

Specific industrial development strategies for the forest sector, for the period 1982-1991 are:

a) to assist in the establishment of additional particleboard/waferboard and hardwood kraft pulp capacity -- based on boreal poplar;

b) to ensure the continuance of a strong softwood lumber sector -- comprising a balance of both independent and integrated operators;

c) to foster the introduction of several shortlog sawmills to better utilize the tolerant hardwood resource; and,

d) to investigate, by means of cooperative feasibility studies, the prospect of establishing a major fibreboard or pulp facility to utilize the low-grade hardwood resource in the Bancroft area.

3.6 Utilization

During 1975/76 Ontario undertook a major one-time survey and compilation across the entire Boreal forest, to determine the volume of unutilized fibre following logging. The results of that survey, similar to those of other loss-comprehensive surveys, were the identification of very significant volumes of material, comprising: fire-killed timber, insect and disease damaged timber, by-passed trees (too small, too big, too crooked, wrong species, etc.); high stumps; broken-on-impact stems; choker-slipped logs and logs buried at landings under snow or mud.

Largely as a result of increased use of whole tree logging, utilization practices have improved since 1975/76, and there is clear recognition by MNR that "total" utilization is neither technologically possible nor economically and environmentally desirable. Nevertheless the benefits of improved utilization are considerable in respect to: the amount of access and access funding which is required; the impact on site preparation and other regeneration levels and costs; the opportunity for new industrial expansion or development, etc.

In light of these implications, it is clear that further efforts must be undertaken over the next decade to strengthen existing wasteful practice deterrents and, at the same time, to introduce additional incentives in support of improved utilization in Ontario's forests.

3.7 Program Integration:

There exists a pressing requirement to effect a much-improved level of "integrated management" of the forest -- such that there is adequate cognizance of the variety of forest users and diverse types of benefits and costs associated with various management actions. To date, various forest-related programs (timber, fishing, hunting, trapping, environmental protection, etc.) have not adequately recognized nor responded to the complex and far-reaching inter-relationships of one program with another. Several factors make "integrated management" a critical aspect of the forest strategy for the 1980's. Paramount among these is the increasing conflict of land use in the light of ever-expanding demands (of all types) encountering an ever-constricting available forest land base -- the only solution of which lies in a much greater co-existence of users and integration of program planning and delivery. In addition, the basic economic conditions of the 1980's have instilled a

requirement that public natural resource agencies should manage for greater effectiveness, efficiency and economy. Smaller numbers of staff are thus expected to manage a broad array of programs in a substantially more integrated fashion. Ontario is presently developing the means for implementation of integrated resource management.

3.8 Technology Transfer:

Ontario has identified an urgent priority for an area that has traditionally been viewed as a peripheral component of forest research and development. Innovative and more effective forest management practices are dependent in large part on the availability and use of results from forest science. Although there is no question as to the need for continuing support of science, there is clear evidence that the development and application of the results of this science into practice is limited by a lack of appropriate institutional arrangements to facilitate its transfer.

The Hybrid Poplar Program in Ontario was structured as a prototype initiative to effect such a transfer. Ontario has learned from the strengths and weaknesses of that prototype arrangement and is now restructuring within the Forest Management Program to create new institutional structures to accelerate the development transfer and application of research. The Fast-Growing Hardwoods Development Group and the Northern Forest Development Group are the first of these structures.

3.9 Public Consultation and Communication:

An improved level of consultation and communication must be effected within the program, as well as with the forest industry, other forest users and the public at large. Such dialogue is required for complying with the requirements of access-to-information and environmental assessment but more importantly, an improved understanding of and conversancy with basic forestry issues by non-forestry agencies and by the public at large is essential to the future of forest management in Ontario. Ontario's strategy is to improve upon the level and quality of the consultation and communication processes which are now mandatory components of the land use planning process, FMA process, and the management plan, operating plan, access plan and Modified Management Area Planning processes.

IN SUMMARY

Any further Federal/Provincial forest resource development agreements should only be developed and delivered within the framework of a long-term forest management planning process. Canada and Ontario each fully support this caveat.

In Ontario, each of the elements of the total forestry system (the resource, the industry, and the management systems) are at a stage of development which is both reasonably mature and exceedingly complex -- such that the requisite long-term plan is not contained within a single document, but rather, comprises a substantial and complex array of documentation and initiatives which are associated with a comprehensive planning system.

Although there are overlapping and shifting planning periods, the current planning period which is most relevant for Ontario is that covering the period 1972-1991, divided into two distinct 10-year periods. The year 1972 coincided with the introduction of three major actions:

1) Cabinet approval of the Forest Production Policy for Ontario;

2) the introduction of a major and fundamental governmental and departmental re-organization (having significant impact on natural resources management); and,

3) the initiation of a major and sophisticated land-use planning exercise for all MNR Regions and Districts of the province.

The strategy for forest management in Ontario has been developed to provide a broad and balanced perspective to the province, thus enabling it to establish directions and priorities covering the myriad of management actions required to successfully meet the forestry challenges of the second decade of the planning period. Of particular importance is the determination that any prospective Federal/Provincial agreement should not be limited to regeneration and tending activities. Rather, it must encompass a balanced and cohesive package of forest planning, forest access and forest protection elements, before it may be considered to constitute a responsible initiative for renewing the forest and thus receive consideration for provincial participation.